ER Site No. 226: Old Acid Waste Line (TA-I)

ADS: 1302
Operable Unit: Technical Area I

Primary Contact: Dick Fate
Office Phone: 284-2568

Site History

ER Site 226 is the Old Acid Waste Line. The old acid waste line outfall was listed as ER Site 46 based on information obtained during the Comprehensive Environmental Assessment and Response Program (CEARP) Phase I interviews. The old acid waste line was distinguished from the acid waste line outfall and was designated ER Site 226 in October 1992. The outfall is being investigated under ADS 1309, Tijeras Arroyo; the line is being investigated under ADS 1302, Technical Area (TA)-I. The original ER site name was the Acid Waste Line (TA-I). The ER site name was changed to the Old Acid Waste Line during the development of the TA-I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan Work Plan

ER Site 226 includes all of the abandoned line and soil near the abandoned line where potential contaminants of concern (COCs) have been detected as well as soil near those portions of the active line where breaks have been identified and potential COCs have been detected.

The acid waste line was installed between 1948 and 1950 and was constructed of 4- to 8-in. diameter vitreous clay pipe. The system extended from three origins in the north-central section of TA-I south to an outfall north of the Tijeras Arroyo. Lateral lines extended to buildings served by the line. The line remains in place and lies from 4 to 10 ft below grade and is an average of 8 ft below grade south of TA-I.

Based on a review of architectural and mechanical drawings of TA-I buildings and interviews with present and retired SNL/NM employees, waste was discharged into the acid line from the following buildings:

- Building 839, instrument repair and general research laboratory activities,
- Building 840, machine and ceramics shops,
- Building 841, a foundry and plating and coating shop,
- Building 860, environmental testing,
- Building 863, motion-picture film processing, and

- Building 892, weapons production.

It is assumed that discharges from the acid waste line ceased after 1967; the actual date that discharges ceased is unknown. Discharge from the line is evident in aerial photographs taken from 1964 to 1967. The line was separated at the intersection of I and 9th streets. The southern portion was capped at that intersection and was abandoned in place; all discharges to the line south of the intersection were discontinued. The portion of the line north of I Street was connected to the sanitary sewer system near the intersection. The acid effluent was then either discharged to the sanitary sewer or the waste was collected at the point of generation as chemical waste for off-site disposal.

Reportedly, the acid waste line received about 130,000 gal/day of discharge comprised primarily of cooling water blowdown, but also including chromates, ferric chloride, and liquids from etching, plating, and photographic film developing processes. An estimated 200 gal/day of spent chromic acid was discharged to the acid waste line. The exact duration of system use is unknown but was at least 17 years.

Additional site history information and compilation of data that have been collected at this site are provided in the TA-I RFI Work Plan that was submitted to the Evironmental Protection Agency (EPA) in February 1995.

Constituents of Concern

The potential COCs identified for this site during its history include:

Metals,
Volatile organic compounds (VOCs),
Semivolatile organic compounds (SVOCs), and
Polychlorinated biphenyls (PCBs).

Current Hazards

There are no surface contaminants of concern at this site. Possible contaminants associated with this site are greater than a foot below the ground surface. There are several contaminants in the subsurface; those that contributed to the non-radiological risk were manganese and barium. However, based on the concentrations of these contaminants found to date, an assessment of the risk under an industrial land-use setting indicates that this site does not have a significant potential to affect human health. There were slightly elevated levels of Pu 238, Pu 239/240, and U 238; however, the total effective dose equivalent was less than that allowed for a residential-use setting.

Current Status of Work

The TA-I RFI Work Plan was delivered to the EPA for review in February 1995. Field activities outlined in the work plan were completed in July 1995. Site characterization included collection

of surface (0-2 ft) and near-surface (2-14 ft) soil samples to assess the potential for contaminated soils at this site.

Based upon the results of data collected at the Acid Waste Line and a risk assessment, a No Further Action (NFA) proposal has been prepared and was submitted to the New Mexico Environment Department (NMED) in May 1997.

NMED reviewed the NFA and returned a Request for Supplemental Information (RSI) in March 1998. SNL responded to the RSI in June 1998. NMED requested that additional sampling be done to further determine the nature and extent of contamination. NMED also requested additional sampling at Sites 96 and 187. Because of the close proximity of these sites to Site 226, and because the nature of contamination was similar, it was decided to combine further sampling at theses sites to reduce the amount of sampling needed.

In September 2001, SNL met with NMED to specifically define what additional sampling should be done at Sites 96, 187 and 226. A Sample and Analysis Plan was completed in November 2001 to document the results of the discussions. SNL agreed to collect soil samples at 8 locations in the vicinity of 3 original sample locations for Site 226; 2 samples were to be collected at the original sample locations and the remaining 6 samples at locations offset from the original sample locations. The constituents the samples were to be analyzed for varied but included VOCs, SVOCs and isotopic plutonium.

The soil samples defined in the SAP were collected in May and June 2002.

Future Work Planned

The final response to the NMED's March 1998 RSI request will be completed. The response will include a summary of the recent sampling results and a revised risk assessment.

Waste Volume Estimated/Generated

A small amount of waste was generated as a result of characterization sampling conducted for the RFI.

Information for ER Site 226 was last updated Jan 21, 2003.